THE VETERINARY RECORD

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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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THE PROPOSED SCOTCH BOARD OF AGRICULTURE.

The Government are contemplating a step which, however well intentioned, cannot fail to be detrimental to British agriculture. It is proposed to establish a separate Board of Agriculture for Scotland which, as one of its most important duties, is to administer the Contagious Diseases of Animals Acts throughout Scotland. It may be fully admitted that, as regards some departments of agricultural industry, there is something to be said in favour of transferring the administration of Scotch affairs to a Scotch authority. But we, as veterinary surgeons, are concerned only with our one very important department of the suppression of animal disease. In this, there is no doubt that the proposed division of authority, should it take place, will be a grave mistake.

Areas of country enclosed within one sea-line should, so far as the control of animal disease is concerned, be under one governing body. That has hitherto been done in Great Britain with good results, and in Ireland with even better. On the Continent, for obvious reasons, it cannot be done, and a great deal of the difficulty in repressing animal disease in Europe is due to the long lines of frontier with different regulations under different Governments on either side, dealing with questions in which, as has just been well said, "Absolute unanimity of treatment guided by one mind is essential for success." The Government's proposal will introduce the same difficulty into Great Britain, and it is with regard to outbreaks of disease occurring near the Border that its effects will be most marked.

In dealing with rapidly spreading epidemics such as foot-and-mouth disease, prompt decision and vigorous action—the latter perhaps extending considerable distances from the centre of the outbreak—are essential. These are possible under our present *régime*, as the success with which the repeated invasions of foot-and-mouth disease this year have been dealt with testifies. They would be impossible, in the long run, under the proposed new system. Different regulations would be established; differences of opinion regarding the restriction necessary would be certain to arise; and, worst of all, the two Boards might even disagree upon the nature of an outbreak of disease near the Border. In the end Scotch and English Agriculture alike would suffer, perhaps to an incalculable extent.

Agriculturists in both countries are alive to the dangers of the innovation. The Scottish Chamber of Agriculture, by a large majority has protested against it; and similar protests, so far unanimous, have been sent in by agricultural associations in England.

There is yet time, in all probability, for vigorous concerted action by agriculturists to prevail upon the Government to drop this ill-considered proposal; and veterinary surgeons, so far as lies in their power, should endeavour to assist the agriculturists. Veterinary associations might join in the protest; and veterinary practitioners should certainly endeavour to stimulate the more locally influential of their agricultural clients to organised resistance. And finally, any practitioner having access to a Member of Parliament may now approach him on a subject of infinitely greater import to the profession and the nation than the redression of such minor veterinary grievances as those of motoring dues and jury service.

VETERINARY TRAINING FOR PUBLIC HEALTH WORK.

Dr. Knox's opening address at the Glasgow Veterinary School appeared in our pages last week. This week we reprint two notes upon it—one from *The Lancet*, which is mainly an echo of Dr. Knox's views, and the other a spirited comment by Prof. McCall. We are glad the veteran Principal of the Glasgow Veterinary School has spoken out; for both Dr. Knox's address and *The Lancet's* note illustrated a misconception which is very common amongst medical men.

Most medical men now acknowledge the need for an adequately trained State Veterinary Service. Very few seem to realise how much our profession has done to meet that need. Many, in fact, speak of laboratory instruction for veterinary surgeons, and the higher education of the profession, as if both were undertakings yet to be commenced; whereas both have long been in full vogue amongst us. Dr. Knox, in advising the Glasgow School to initiate post-graduate courses, seemed quite unaware that such courses have been established for years at various centres in England. Possibly Dr. Knox, and certainly many another medical man, would be surprised to hear from Prof. McCall that veterinary students for the diploma receive practical training in bacteriology and meat inspection at every school in the United Kingdom. And yet that state of things dates from the last century!

The ordinary professional veterinary curriculum is fully upon the scientific level of the medical one. The same may be said of the post-graduate instruction of the two professions in sanitary science; only, as the demand for veterinarians in this capacity is is yet not great, a few centres of post-graduate veterinary instruction have so far sufficed to meet it. Doubtless fresh centres will open as the demand increases, but at present, whenever a new appointment in State veterinary medicine becomes available, a specially trained veterinary sanitarian can be found to fill it. Medical men who recognise the position we shall one day fill in the public health services might well also learn to recognise how far we ourselves have already travelled unaided towards it.

INTUSSUSCEPTION.

By Lieut. H. C. Stewart, A.V.C.

Station Veterinary Hospital, Secunderabad.

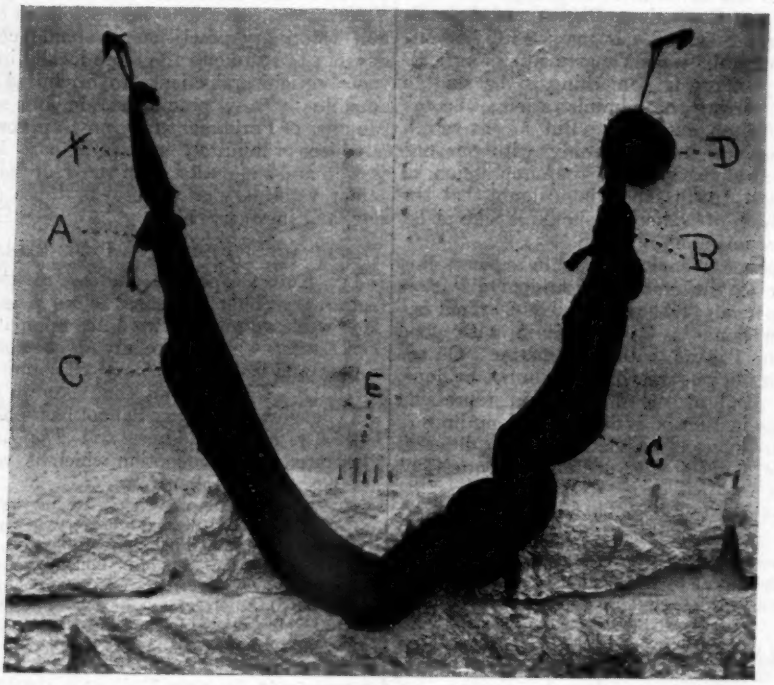
Subject.—Aged bay Wâler mare, a polo pony, the property of an officer.

History.—No previous attacks of colic. Was sent to be tried in a chukker with a view to purchase on Sept. 22nd; polo ground six miles away. Whilst waiting on the ground previous to trial, suddenly fell down and showed spasmodic colic. Was got up after some difficulty, and sent to hospital, five miles from polo ground. Showed severe colic the whole way up.

drawn so tight as a twisted bowel. Rectum quite empty, no fæcal matter met with full length of arm. Same symptoms lasted until about midnight when there was slight subsidence of pain, though appetite was wanting. Animal remained fairly quiet during the night, although dull symptoms were shown; all extremities very cold, and broke out into sweaty patches occasionally.

Morning, a little better. Temp. 103·4; very cold, occasional colicky symptoms, continual dull symptoms; no fæces passed, rectum still empty. Conjunctival mucous membrane remained practically normal throughout the attack; drank some water, but only chewed a little lucerne.

About 10 a.m., in spite of all treatment, fell down



Explanation of Photograph.

X. Normal small intestine leading from duodenum to invagination.
A. Commencement of invagination.
C. Invaginating portion ending at *B*.
B. Invaginating portion resected and end folded back to show invaginated portion.
D. Terminal loop of invaginated portion.
E. Some of the nails and screws found in double colon.

Symptoms.—When admitted about 6 p.m., severe acute spasms; no distension of bowel; temperature normal; no peristalsis audible, but borborygmus Kept moving to prevent falling down as, if allowed to, endeavoured to roll on back. Given usual treatment, enemas and hose-pipe injections, but although straining only a small quantity of mucous discharged. Pulse frequent and small. Evidently obstinate stoppage of bowels; no peristalsis. Examined per rectum, and felt a cord-like, painful swelling, which did not appear to the touch to be

and died almost immediately. No Eserin was given.

Post-mortem, made about one hour after, revealed a ruptured stomach; the guts were then removed, placed on a table, and examination commenced from the rectal end. The floating colon was shrunken and quite empty. A big impaction encountered on entering the fourth division of the double colon. This consisted of a "dung-ball" about the size of a man's head containing gravel, some nails and screws. These latter were all of different shapes

and sizes, some of which are shown *(E)* in the photograph. Above this the contents were dry and hard, and towards the pelvic flexure another empty portion was found, and further on two more hard "dung bells," the size of cricket balls. In the 2nd portion the fæces were more or less normal and soft, and had evidently been acted upon by the medicines given, but at the cæcal end of the first portion the contents were darkly stained with blood, as also at the upper end of the cæcum. On entering the small intestines nothing but blood was found, and this was so for about 20 feet, when a very long telescopic condition of the bowel was discovered. The fore part had telescoped into the hinder. The invagination was removed after ligaturing with tape at each end, and the examination continued into the duodenum; the mucous membrane and external surface of which both showed inflammation. The stomach, except for the rupture in the greater curvature and consequent evacuation of the major portion of the contents, was normal. The invagination, which measured roughly 6 feet, was then photographed, and is explained in the accompanying photo; after which an endeavour was made to reduce the bowel to its normal condition. This was done after great difficulty, due to the mesentery attached to the invaginated portion. Both portions of the bowel contained blood, the invaginated portion showed strangulation, the mucous membrane being black in places. The invaginating portion was very much "kinked" towards the centre by the mesentery of the invaginated portion. After reduction and evacuation of the contents, the inner portion measured 7½ feet, and the outer portion nearly 20 feet, so that out of 72 feet of small intestine, about 27½ feet were involved in the intussusception

I am indebted to Capt. Brachen, R.A.M.C., for kindly taking the photograph.

LYMPHO-SARCOMA IN THE DOG.

By E. Wallis Hoare, F.R.C.V.S.

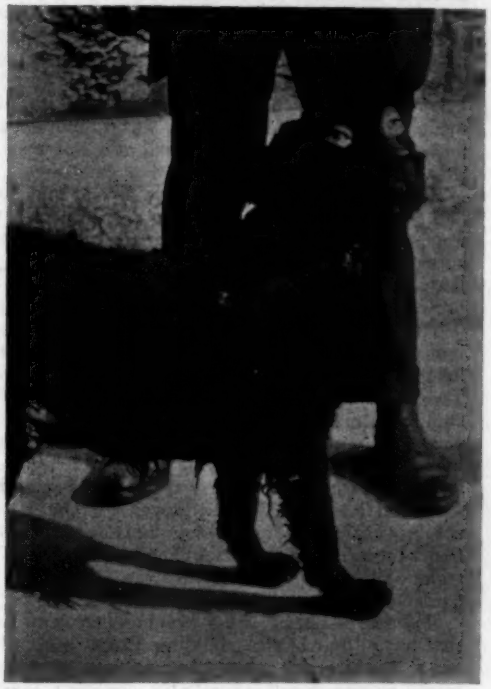
On September 4th an Irish water spaniel dog was sent for treatment; the following history was given by the owner.

The animal was two years and three months old, and about three months previously had suffered from a severe attack of distemper. On recovery from this, a peculiar appearance of the eyes was observed, and also the presence of a number of enlargements on the skin in various parts of the body.

On examination the eyes presented the appearance of acute conjunctivitis, the mucosa being very œdematous, and the eyelids much swollen. The eyes were very prominent, and the periorbital tissues swollen. A number of hard flattened enlargements were present on the skin in various regions, the largest being in the thoracic region.

The dog showed marked distress on being exercised, but while at rest appeared comfortable, and had a good appetite. Examination of the heart showed that the cardiac sounds were very indistinct and the impulse very weak.

On September 15th the animal was next seen, and all the phenomena found at the first examination were much more marked. Some of the tumours on the skin had commenced to ulcerate, the lymphatic glands all over the body were symmetrically enlarged, the inguinal glands being especially voluminous. The action of the heart was very weak, and distress was shown even while walking. The animal was destroyed with chloroform.



Autopsy.—The heart presented a peculiar appearance, as a large portion of the cardiac wall was of a firm white texture, a moderate amount of fluid was found in the pericardial sac. The liver was enlarged and congested. The spleen was normal. The abdominal lymphatic glands were moderately enlarged. I forwarded the heart, one of the affected inguinal glands, and one of the subcutaneous tumours to Mr. A. Leslie Sheather, M.R.C.V.S., who kindly examined them and reported the lesions as round-celled sarcoma.

The accompanying photo was taken on Sept. 15th.

CAVALRY COLLISIONS IN WAR.

In view of the remarks made on page 31 of the Statistical and General Report of the Army Veterinary Service for 1909, regarding the probable result of a charge made by cavalry, riding knee to knee, against another mounted unit riding in a similar manner, the following accidents are of interest, as they give support to the statement "that the impact, head to head or head to shoulder,

would mean the obliteration of the front rank of each side as completely as though they had ridden against a wall."

Quite recently the writer of this note was called to a parade ground where some mounted sports were being held preparatory to an assault-at-arms, and shown two horses lying dead within two yards of each other, and a third animal being led about with an attack of colic (?)

The two horses lying dead had accidentally been galloped into each other head to head, and just before the impact took place one of the horses raised its head, so that the full force of the collision was between this horse's mouth and the other's cranium. They both dropped as instantly as though they had been shot. The horse that had raised its head made an attempt to rise, which was no more than a movement, but the other animal did not even do this.

Post-mortem examination showed that one horse had been killed by its brain being penetrated by the upper incisors of the other, three of which were actually found broken off in the substance of the brain. The entrance had been made just above the brow band.

The other horse showed that three of its upper incisors had been broken off, and considerable hæmorrhage at the base of the skull was observed. The whole head was carefully boiled down, but no sign of a fracture was discoverable. The cervical vertebræ, similarly prepared, were also quite normal. The horse showing colic had been galloped into by another horse while it was standing still, and had been knocked over by the impact coming against its near side. This horse died two hours later, and post-mortem showed rupture of the stomach with its contents scattered through the peritoneal cavity.

The net result of these accidents goes to show that out of four horses colliding three were killed, and it enables one to form some idea as to what would be the result of cavalry charging cavalry. The case of ruptured stomach is the first one in the writer's experience that can be, beyond all doubt, directly attributed to external violence.

T. Lishman, Lieut. A.V.C.

Campbellpore, India.

ACORN POISONING.

Mr. Davis's note on the above subject is interesting. There is probably a reason for the fact he states in that acorns are more frequently gathered up in Germany and France than they are here. In Spain, too, quite a useful and widely employed food for pigs is provided by the oak trees. The outer husk of the seed is the part that produces the most mischief, and when prepared for food this is removed, and if the acorn is then dried its nutritive value is said to be greatly increased.

It is a matter for argument whether the fruit of *quercus pedunculata*, the common oak of England, Ireland, and Scotland, is not more poisonous than that of *quercus sessiliflora* which is found chiefly in North Wales and the hilly parts of the North of England. Continental men recognise a sweet and bitter acorn, and it is the former that is the least harmful and most used as food. The forest acorn varies in nutritive constituents and in amount of production. Mature acorns must always be used. If not fully grown they are always dangerous. As a food they only appear to be useful for pigs and sheep, and then in small quantities.

G. Mayall, M.R.C.V.S.

On Oct. 20th I was called to see 10 cows which had been eating acorns, 6 being aged cows and 4 heifers. They did not seem at all ill, but we gave each one a purgative drench and they seemed to go on all right for a few days.

On Oct. 25th was called again, and found the older cows all right, but the heifers in a very bad state. Complete loss of appetite, shrunken eyes, occasional blinking, backs arched, lactation suspended. Two of them gradually grew worse, took to the ground, becoming comatose, in which condition they lingered for two days and died. Obstinate constipation at first, followed by strong diarrhœa.

Two of them are still alive, but won't eat, and they look like living skeletons. Acorns could be seen in the fæces when they were first taken ill.

J. H. Parker, M.R.C.V.S,

Faringdon.

THE YORKSHIRE VETERINARY MEDICAL SOCIETY.

A meeting was held at the Hotel Metropole, Leeds, on Friday the 27th October, when the President, Mr. J. W. Lazenby, Tadcaster, occupied the chair. Among the members who attended the meeting were: Messrs. H. G. Bowes, A. W. Mason, F. W. Clough, E. H. Pratt, S. Wharam, P. Deighton, Selby; S. E. Sampson, A. W. Noel Pillers, J. R. Simpson, W. A. Campbell, James Bell, J. A. Hodgman, Geo. Whitehead, J. McKinna, G. E. Bowman, W. Crawford, F. W. Pawlett, A. McCarmick, Treasurer, and J. Clarkson, Secretary. Visitor, Mr. R. R. Thompson, of Halifax.

The minutes of the previous meeting were read and confirmed.

Correspondence.

The Secretary read letters of apology from Messrs. Abson, L. Jones, and Cockburn.

A notice had been received from the Royal Sanitary Institute as to the holding of their next meeting in July, 1912, in York. It was decided on the proposition of Mr. A. W. Mason to deal with it at the next meeting of the Society.

Mr. Shipley, of Great Yarmouth, Secretary of the Victoria Benevolent Fund, had sent a letter enclosing leaflets for distribution among the members of the Yorkshire Society, and asking for personal subscriptions, and that greater interest be taken in the work of the Victoria Benevolent Fund.

Mr. Mason and Mr. Wharam both spoke of the deserving merits of the Fund, and suggested that all members of their Society should contribute something towards its maintenance, as at present it was not receiving that measure of support which was its due.

A letter was read from Prof. Woodruff in which he called attention to the fund opened by *The Veterinary News* for the purpose of assisting Mr. William Kirk in the appeal raised by the London County Council to

compel veterinary surgeons to pay for the use of the College crest.

Mr. McCarmick proposed that £1 1s. be voted towards Mr Kirk's expenses in connection with his defence, at the same time stating that he (Mr. McCarmick) would subscribe £1 1s. personally.

Mr. Bowman proposed as an amendment that they should make the subscription £2 2s., upon which Mr. McCarmick withdrew his suggestion in favour of Mr. Bowman's proposition.

Mr. Bell seconded the amended resolution, which was then carried unanimously.

The Secretary read a communication from the National Society in regard to the scheme for affiliation of veterinary societies to the National Society, and proposed that the Yorkshire V.M.S. give their formal expression of desire to be affiliated in accordance with the scheme.

Mr. Wharam asked whether this should not appear on the minutes before it was approved, and thereupon Mr. Mason proposed it should be placed on the minutes and follow the proper course of procedure.

Mr. Bowes said he did not think there could be any good in delaying the matter. They had already approved of the scheme of affiliation several times, and he supported Mr. Clarkson's resolution that they do formally agree to affiliate. It was not a matter about which they were short of information. It had been discussed half-a-dozen times at the meetings of the Society.

Mr. Mason thought it would be advisable that it should be put on the minutes to come forward for discussion and approval at the next meeting. They would then be following the proper course, and they would be prepared for considering the matter.

Mr. Clough asked whether the rules of the Society would interfere with the approval of the scheme of affiliation without due notice having been given.

This appeared to be the general feeling of the meeting, and the Secretary thereupon stated he would withdraw his resolution and forthwith give formal notice that at the next meeting of the Society the scheme for affiliation would be brought forward for discnssion and adoption by them.

A letter read by the Secretary had reference to the death of the late lamented Prof. W. O. Williams, and after reading it he expressed the hope that a vote of condolence would be passed by the Society.

Mr. Bowes, in proposing a vote of sympathy with the bereaved family, said as an old student of the College of which Prof. Williams was at that time a tutor, he felt he was voicing the feelings of all of them when he said they would feel his loss as a personal loss. Particularly would they miss his genial company at their annual meeting and dinner.

Mr. Whitehead seconded, and the vote was carried in silence, all standing.

The Secretary intimated that he had pleasure in announcing that at the spring meeting of the Society they were to have a paper from Prof. Ainsworth Wilson on "Sterility."

Nomination.

Mr. R. R. Thompson, Halifax, was proposed and seconded, and unanimously adopted.

Financial Report.

In presenting his financial statement for the year, Mr. McCarmick pointed out that they had over £40 balance at the bank, which was as nearly as possible the same amount as last year, in spite of the fact that they had had some very heavy expenses to meet during the last 12 months.

After a short discussion, the report and balance sheet was adopted.

Election of Officers.

The retiring President, Mr. J. W. Lazenby, said he had the pleasant duty to perform of proposing the name of Mr. McCarmick for the position of President of the Yorkshire Veterinary Society which he himself was about to vacate. Mr. McCarmick was a well known worker, and it was the unanimous wish of the Council that he should be elected to preside over their meetings for the coming year.

Mr. Whitehead, in seconding, stated that as the proposer of the name of Mr. McCarmick in Council, he had great pleasure in seconding the same resolution before the general meeting. They had heard the praises of Mr. McCarmick sung by the auditors in reference to his accounts, and he felt they would have the same sentiments to express with regard his chairmanship at the end of his term of office as president.

Mr. McKinna said he was glad to associate himself with the words of the proposer and seconder, and he was pleased that Mr. McCarmick had been prevailed upon to accept this, the highest honour their Society were in a position to offer to any of its members.

The resolution, on being put to the meeting, was carried with acclamation.

The retiring President then vacated the chair which was at once taken by the newly elected President.

Mr. McCarmick thanked the members for the honour done him and the new dignity conferred upon him. He accepted the position with a great amount of diffidence because he felt he could not do justice to it. (Cries of "No, no.") However, he would do his very best. (Hear, hear). He was confident at any rate that he would have the support of the officers and Council, and with that help he hoped to be able to get along tolerably well.

Vice-Presidents.—Messrs. Lazenby, Deighton, and Pawlett.

Treasurer.—Mr. Mason proposed, and Mr. Bowman seconded, the election of Mr. H. G. Bowes for the ensuing year, and this was carried without dissentient.

Mr. Bowes, in acknowledging the vote, said he wished it to be understood that he was of course only intending to act as a temporary treasurer during the term of office of Mr. McCarmick as President.

Secretary.—On the proposition of the Chairman, seconded by Mr. Bowes, Mr. J. Clarkson was re-elected.

Auditors.—Messrs. A. W. Mason and Wm. Crawford were re-elected.

Council.—The following six gentlemen were elected: Messrs. Bowman, McKinna, Ellison, Sampson, Wharam, and Whitehead.

EPIZOOTIC ABORTION IN CATTLE.

By E. H. Pratt M.R.C.V.S., Northallerton.

Mr. President and Gentlemen,—When your worthy Secretary sent me a wire asking me to give you a paper, I felt that everyone should try and do what he could for the benefit of our Societies, I felt bound to try and put my belief into practice. The only subject which I could think of for the purpose was "Epizootic abortion in cattle." This received the approbation of your Secretary; but the time being short for preparing anything for this meeting, I have simply tried to bring some of the main points forward so as to introduce the subject for discussion.

When one considers the enormous losses which are incurred by breeders, dairymen, and smallholders, I think that there is no need of apology for introducing the subject. One has known a case where a farmer has given up cattle breeding; of another who has abandoned the milk trade; and of one who has been practically ruined through this troublesome disease. The Board of Agri-

culture thought it advisable to have a Departmental Committee to enquire into the disease. The Committee carried out experiments, examined witnesses, and issued a most interesting report in which they recommended that action should be taken by the Board with a view to checking the disease. It is on that report that I have mainly based the few remarks which I have to make. I thought it quite probable that all the members would not have read it, and even if they have, it will be so much the better, because what I miss some member may bring forward. The report has been published, and the matter is of great importance to the country; therefore one would think that we, as a Society of veterinary surgeons, cannot do better than give it our careful consideration.

There appears to be no doubt that epizootic abortion in cattle is caused by a micro-organism, that the disease is contagious, and when once it makes its appearance amongst a herd of cattle it remains for a considerable time and inflicts great loss.

It has been proved that an animal may be infected by injecting natural virulent material or active cultures into the blood stream; by subcutaneous inoculation of considerable quantities of virulent material; by introducing virulent material per vaginam or by the mouth.

I have always been convinced that the bull was a great factor in the spread of the disease. Very unfortunately the committee were not able experimentally to prove or negative this theory. Only one satisfactory experiment in this direction was carried out, and it proved negative. The Committee state that "Without denying that the disease may sometimes be spread by coition, we think that nothing more than quite a subsidiary *rôle* in the spread of epizootic abortion can now be assigned to the bull."

One fact which impressed me with the idea that the bull was a carrier of infection, was a case where the first cow to abort, on a certain farm, had been sent to a neighbour's bull. The owner of the bull had had several cows abort. After this cow aborted the owner had a great many others follow.

The lesion of contagious abortion is confined to the uterus and its contents. "As long as the uterus remains closed, there is no fear of an infected animal spreading the disease by any other of its excretions to other animals. But once the contents of the uterus are discharged the infective material is liberated." This is a very important point when one considers that the course of the disease is slow. (The Committee found that "in ten experimentally infected animals which aborted, or which were killed when showing unmistakable symptoms of abortion, the average period between infection and the act was 126 days." The shortest period in any of these animals was 33 days, and the longest 230 days). The infection being confined to the uterus until the contents are discharged, gives one a chance to take precautions, because one knows the term when an animal becomes dangerous to others. Unfortunately all animals which abort do not exhibit premonitory symptoms, although many do. These can be taken and isolated and all discharges from the uterus can be treated with the object of preventing them infecting other cattle.

Externally the uterus of a pregnant cow affected with epizootic abortion seldom shows any departure from the normal, except that it may sometimes appear slightly more distended than one would expect for the period of pregnancy. Very exceptionally, however, slight œdema of the uterine wall is present in the neighbourhood of the neck. On cutting into the organ one finds between the chorion and the mucous membrane a variable quantity of exudate. It is particularly abundant around the cotyledons, and it may extend over the whole surface of the uterus and chorion, but apparently the extent of the area covered by it does not altogether depend upon the length of time the animal has been affected. The exudate is usually of a light brownish yellow colour, which is possibly due to the chromogenic character of the microbe. Sometimes, however, it is a dark chocolate colour, due probably in some cases to admixture of blood, and in other cases to the oozing of fluid from the muscles of a mummified fœtus. Its consistence varies from that of fluid pus to that of tough dough. Frequently it is so glutinous that it is difficult to remove small portions with a platinum needle. If a portion of the fluid exudate be placed in a test tube and allowed to stand for some hours, it separates into a lower portion of yellow solids, and an upper portion consisting of a dirty grey liquid. When the exudate is removed from the surface of the uterine mucous membrane the latter shows no microscopical lesions.

In advanced cases many of the cotyledons are softer than normal, and they may even be pulpy. In such cases the cotyledons have a distinctly yellow necrotic appearance, but no sign of necrosis is to be found on examining sections of the tissue. The sub-choroidal tissue of the fœtal membranes is in some cases œdematous and has an appearance very like mucoid tissue. In quite a number sent up to the Board's laboratory, portions of the chorion have been found thickened and of a leathery appearance.

The fœtus may, or may not, be altered. Out of 19 fœtuses taken from experimentally infected animals, seven were found in which distinct pathological changes had taken place, that is to say, in 36·8 per cent. The changes in the fœtus seem to depend on the length of time it has been dead. In no case in the cow was the fœtus putrefying *in utero*. The fœtus may be quite normal in appearance, and up to time as regards development. Sometimes the tissues are œdematous, and occasionally the œdema is blood tinged. Not infrequently the only alteration found in the fœtus is dropsy of the abdomen, or it may be of the chest. The umbilical cord is frequently, though not always, dropsical. Sometimes the fœtus is on the way to become mummified. In such cases the fœtal membranes are closely adherent to it, and when one separates them one removes also what is left of the fœtal skin, exposing a dark brownish-red and distorted mass of bony and muscular tissue in different stages of desiccation.

Of course before going in for any legislation with the object of combating a disease, it is most necessary to be able to prove that one's diagnoses are correct. This was a point which in the past appeared to me to offer great difficulties. Because if an owner exposed a cow in a market and an inspector saw her and suspected that she had calved prematurely, how was he to prove whether his suspicions were correct or not. We are now told that "It is an easy matter to identify the characteristic clumps of abortion bacilli in microscopical preparations made from the uterine exudate discharge immediately before and after abortion." The bacilli stain admirably with methylene blue or diluted carbol-fuchsin. They do not retain the stain when treated by Gram's method, and they are not acid-fast.

"If a suitably stained preparation made from the uterine exudate of an affected cow be examined under the microscope, a large number of white blood corpuscles and catarrhal cells from the uterine mucous membrane can be seen. Between the cells there are numerous single bacilli, which are mostly of an oval shape; some, however, are distinctly rod-shaped, like the tubercle bacillus, and collected into dense groups or colonies. Some of these groups look as if they were bounded by a cell membrane and give the impression of being contained inside tissue cells. In many cases, however, they look simply like collections of agglutinated bacilli. Lying amongst the smaller elements of a colony one sometimes sees very large oval elements which take the stain very deeply."

As a rule the majority of the bacilli are between one and two microns in length, but many are less than one micron. The longest measure about three microns. Tubercle bacilli, as you are aware, are from three to four microns in length. The committee prepared a material analogous to tuberculin, which they have called "abortin." When abortin was injected intravenously or subcutaneously into a cow which had previously aborted or which had been infected with the disease, a temperature reaction usually followed.

In animals not infected the temperature might rise to 103, but in infected ones the temperature would rise to 104, 105, and 106 F., commencing at the fourth hour and lasting until the fourteenth. Experiments with a method of diagnosis based on what is termed "fixation of the complement" for the purpose of diagnosing the disease in apparently healthy pregnant cows, gave promise of success. This method appears to be too complicated for anyone to adopt except an expert bacteriologist. I think, therefore, we need not go further into it at present.

If these methods eventually prove reliable, most useful weapons will have been prepared for commencing the attack upon this troublesome disease, because without something of the kind it is quite impossible to inspect a herd of dairy cattle and form any opinion as to what percentage of the animals are infected with the disease or not. Or to be shown an animal say a week after she has calved and be told that she calved before her time; then to be asked the question "Was the premature birth due to contagious abortion or accident?" How is a man going to give an opinion which he can defend with any assurance of being right? With no other evidence, I fail to see how he can.

An animal which aborts through the action of the abortion bacillus gains a considerable amount of immunity, but this immunity is not constant; it is known that some cows will abort two or three times in succession.

Experiments were carried out with a view of producing a degree of immunity which would be useful in practice, and encouraging results were achieved. It was found that large quantities of virulent cultures or pure virus could be injected into non-pregnant animals without serious consequences. Two maiden heifers were injected with 125 c.c. of a culture from the uterine exudate of a heifer which had been experimentally infected and slaughtered before abortion had taken place. The heifers which received these injections subsequently became pregnant 148 and 142 days respectively after immunisation. The first one received intravenously an injection of virulent uterine exudate emulsion 40 days after becoming pregnant. She was killed and found free from infection 112 days after the test inoculation.

The second heifer's immunity was tested by giving enormous doses of virulent exudate both by the mouth and vagina 36 days after becoming pregnant. She was killed and found free from infection 122 days after receiving the first infecting dose.

One experiment was carried out to test the result of carbolic acid treatment. The result of the test showed the treatment to be a failure.

The injections of dead liquid cultures were undertaken with a view of finding a curative agent. Three animals were inoculated intravenously with exudate to infect them. From 14 to 52 days afterwards these animals received every week for ten weeks large doses of dead liquid culture by subcutaneous injections. One of the heifers aborted about the average time after infection (123 days), the other two were slaughtered 112 and 113 days after infection and found healthy.

The prevention of epizootic abortion amongst cattle naturally divides itself into two parts. One is private effort and the other State interference. There is no doubt that much can be done privately to get rid of this troublesome disease, but if an owner of cattle is obliged to keep up his stock of breeding or milk cows by buying in the open market he has a very difficult problem to face, because he must be always liable to get an infected animal and so bring the disease on to his farm.

Legislative measures require very great care in their faming, because the disease appears to be so widespread that any severe restrictions would paralyze the cattle trade and the dairy industry of the country. As we have seen, the disease takes a long time to develope; therefore if animals which had been exposed to infection were placed under restrictions the inconvenience of isolating them would last a very long time.

To commence to slaughter out would be, on account of the large numbers involved, ruinous to the cattle and dairying industries, and the cost to the State would be enormous. One thinks that these considerations must have been evident to the Committee after investigating the disease and hearing the evidence which they got from a large number of agriculturists representing the various agricultural and cattle breeding societies from different parts of the country; because they only recommend that legislative measures should be taken at present against cows which have aborted.

They say "We therefore recommend that as a preliminary measure, epizootic abortion in cattle should be dealt with under an Order of the Board of Agriculture and Fisheries requiring:—

(1) Compulsory notification of suspected cases of the disease.

(2) Veterinary inquiry to establish the existence of the disease.

(3) Temporary isolation and restrictions on the movement of any cow that has recently aborted.

"We also consider that in the event of effect being given to the above recommendations, such measures as may be thought necessary should be taken to avoid the possible introduction of infection in cows imported into Great Britain from Ireland, the Channel Islands, and the Isle of Man."

As to private effort, my experience is that a large number of breeders of cattle and dairymen will take advice, and carry out all kinds of experiments to get rid of the disease when that advice is given gratis, by those who know as little or less than themselves.

I think that private effort properly directed and thoroughly carried out can do a great deal towards ridding owners of cattle of the complaint, but as I once told a client, there is some trouble in carrying out measures which are effective.

Perhaps the best way to bring this forward is to give one's experience in dealing with the disease, in so doing perhaps others will give us their experience when the time comes for the discussion which I hope will follow.

One owner came and said that his cows were picking their calves, could anything be done to help him out of the difficulty, which if it continued would, to use his own words, break him. One cow had aborted a day or two previously and had retained her placenta. This he was advised to have taken away by hand. That was done, and the cow and all the others which had previously aborted were well irrigated with an antiseptic solution injected by means of an enema pump. Antiseptics were supplied and also a home-made injection tube to be used a few times for the cows which had aborted. A syringe was supplied for use on the bull and instructions left for disinfecting the organs of the bull after every service. The byre was thoroughly cleansed and disinfected, the man doing his work thoroughly. No cows were advised to be sold, but all kept and put to the bull. The following season the owner was rewarded by every cow proving in calf and carrying their calves to their full

time. He still keeps a supply of antiseptics and uses it for the bull. This case occurred a few years ago, and he has not been troubled with the disease since.

Another owner sought advice, and said that he had had several cows abort; he had sold them off, but things were no better; even heifers which he had tried to keep isolated had aborted. He was advised not to sell any more but try disinfection. Unfortunately he had no bull of his own. In a while he reported that he could not get his cows to prove in calf. Consequently when they came in season, instead of being sent to the bull, I went to his place and irrigated the uterus to the best of my ability with an antiseptic solution. It is not an easy matter to do this because the os uteri is very small and will not allow the nozzle of the pump to pass, but by a little manipulation it can be dilated somewhat, and I think that by holding the nozzle against the os some fluid must be forced into the uterus. However, this was done, and the cows were served at the following period of œstrum. Now we think that the trouble has been got over, for the cows so treated are carrying their calves the full time.

One has found that other cows which have aborted, and could not be got in calf, have proved pregnant through this treatment. One would like to know if others have found the same difficulty of cows not breeding after abortion, and what remedy they have found successful in treating it.

In reading the report of the Committee one was surprised to find that the irrigation of the uterus was not recommended. It says "With the act of abortion the greater part of the uterine exudate is immediately ejected. That some of it remains behind for a short period is certain, since we were able to demonstrate abortion bacilli in material obtained from the vagina of a heifer three days after she had aborted. On the other hand no abortion bacilli could be found in the uterus of a heifer a month after she had aborted. It seems probable that, as a rule, the genital organs cleanse themselves by natural means a comparatively short time after abortion has taken place. Almost immediately after abortion and expulsion of the membranes the uterus contracts, and its internal surfaces come into apposition. Its condition is such that it would not be possible to force fluid into it with a pump from the vagina. Apart, then, from the probability that disinfection of the uterus by antiseptics is not necessary to rid the organ of abortion bacilli, we are of opinion that it is futile to attempt it by irrigation methods."

The Committee think that for hygienic and therapeutic reasons the genital passages should be cleaned twice a day as long as there is any discharge. They are of opinion that it is seldom necessary to continue the injections for more than a month, and that after three months there should be small risk in putting the cow to the bull. Professor Bang, in his admirable paper which he gave to the National Veterinary Association at Liverpool in 1906, says "After abortion the womb of the cow must be carefully cleansed and disinfected. If the after-birth does not come it ought to be artificially removed (this ought to be done on the first day) and the womb should be carefully rinsed with some antiseptic solution several times in the first days, as long as it is possible. A careful disinfection of the womb is not only important as a way of destroying the contagium in order to prevent infection of other cows, but it is also the best way to protect the cow against sterility, and against abortion in the next pregnancy."

On this practice, and in connection with infections supposed to be spread by the bull, Professor Bang quotes a case reported by Mr. Poulsen (Ringsted):—"A farmer who owned 16 cows, amongst which abortion had never occurred, nine years ago allowed seven of his cows to be served by a bull at a neighbouring farm where abortion had prevailed for some years. All these seven cows aborted, and no others. When these cows began to show signs of impending abortion they were immediately removed from the byre and put into another stall. By all seven cows the after-birth was retained, and Mr. Poulsen therefore had it removed by hand within 24 hours. The removal was complete in the case of six of the cows, but not in the seventh, which became emaciated and was soon afterwards sold. After the removal of the after-birth the cows were daily washed out with carbolised water, and they were not readmitted to the byre until some considerable time afterwards, when they appeared to be entirely free from discharge. During the following year the six cows again became pregnant and carried their calves the full term. No case of abortion has since occurred in this herd. "I think," says Prof. Bang, "every one will admit that in such a case the bull has been the carrier of the contagion." He quotes the case as being "an excellent example of a successful rational prophylactic treatment of a new imported contagious abortion."

One would think that we now know sufficient of contagious abortion to recommend with confidence measures being taken to prevent the spread of this disease, which would not be unduly harassing to the trade, nor too expensive for the State to carry out. We believe that both the owner and the State would greatly benefit. To stimulate discussion on the subject I would offer the following suggestions:

1. That contagious abortion in cattle causes very serious loss to the community, therefore it should be scheduled by the Board of Agriculture, and steps taken under Order for its prevention and eradication.

2. All cows which abort or calve more than a month before their due date should be reported.

3. A veterinary inquiry should then be made into the matter, and if it were found to be a case of contagious abortion the animal should be treated under direction by a State paid veterinary surgeon who would arrange for its isolation and for disinfection of the premises. The whole to be carried out according to principles laid down by the Order.

4. If abortin proves to be a reliable diagnostic agent its use should be made compulsory, and no cows which had been exposed to infection should be allowed to be sold which reacted to it, unless they were branded.

The third proposal, that cows which have aborted should be placed under the charge of a veterinary who should be remunerated by the State, will, one ventures to think, meet with your approval. Because, if the animals are to be placed under any restrictions, some one should see that they are carried out. Who can be more suitable to do this than men who have a grasp of the whole subject, and who understand the why and the wherefore.

It has been demonstrated that good results have followed treatment, therefore whilst the veterinary surgeon was visiting the place to see that the Order was properly carried out, he could at the same time give practical help and advice, which should be appreciated and be good compensation for any inconvenience the owner was put to on account of the Order.

I think, gentlemen, I have said enough, and thank you for your kind attention. If you criticise please remember that these notes—or perhaps I should say collection of extracts—was run together hurriedly to oblige your Secretary, therefore deal kindly with the errors and correct them by giving us your own experiences. If you do so we are sure to have a good discussion, and the object one had in view in bringing the subject forward will have been attained.

Discussion.

Mr. Sampson gave it as his opinion that it would be better to call the disease which formed the subject of the paper, not *Epizootic abortion* but *Specific metritis.*

Such a name would convey the idea that it was not to be confounded with accidental abortions which they came across. It was most important that they should employ their efforts to find some adequate remedy for the disease, for the spread of it in a herd meant a great loss to the owner. First there was the loss of the calves, in addition to that a cow which had aborted only yielded half the quantity of milk, though it was being fed at the same rate as other cows. That meant a great national loss when they came to think of the prevalence of the disease, and it was a subject, he submitted, which was ripe for investigation and also for legislation. He was surprised that the Commission referred to by Mr. Pratt in his paper, which was appointed to inquire into the matter, had not given it as their opinion that the bull was the carrier of the disease. He himself should certainly think so. He knew of a case where a strange bull had served some cows in a herd and subsequently the disease had broken out where it had never been known before. Another point in Mr. Pratt's paper was in regard to injection of the uterus. Nine out of ten times after an injection had been made, there was some fluid left down in the horn of the uterus which it was impossible to get out. This acted as an irritant and upset the cow badly. For his own purposes he had lately resorted to the use of pessaries which caused less irritation to the cow, were easily put in, and answered the same purpose as an injection. Pessaries had the great advantage of not filling up the uterus with any foreign material; they dissolved and nothing was left. Mr. Sampson finally referred to the fact that he could generally tell by the *feel* a cow which had aborted from one which had not. He did not know whether veterinary surgeons had experienced this, but he found he was able to distinguish by the sense of touch in this way.

Mr. CLARKSON agreed with Mr. Sampson that the bull was a very large factor in the spread of the disease. He was rather surprised that the Commission had not laid more blame to his score than they had. As they knew, amongst small holders one bull had to serve a large number of farmsteads and in this way, he thought, the disease was spread. As regards injections *versus* pessaries, he there again found himself in agreement with Mr. Sampson. He did not think so much of irrigation, because it was not so clean an operation as the use of pessaries. When he did make an injection he always used two tubes; one for injecting and one for the outflow.

Mr. CLOUGH said he would like to endorse the remarks of the two previous speakers as to the blame to be attached to the bull in the propagation of the disease. He knew of a case where a bull had served cows on a farmstead six or seven years ago, and that farmer had had abortion in his place ever since. The farmer himself traced it to the bull. One peculiarity which he (Mr. Clough) had noticed about these cows was that after they had come to their full time they kept their afterbirth. As to injections, he had stopped injecting. There was always a considerable amount of straining with the cows, and he had seen them put the vagina down, and the rectum down, as a consequence of the operation. He was certainly in favour of adopting the alternative course of using pessaries.

Mr. BOWES said as a town practitioner he had not had any very great experience of epizootic abortion. He did not think however the Commission had conducted a sufficient number of experiments to disprove the agency of the bull in spreading the contagious disease. He liked pessaries in preference to injections. He thought it a much cleaner and more satisfactory method. Whether it would apply so well in contagious abortions he did not quite know, because the uterus was pretty well closed up and the pessaries would have to be small. The majority of the farmers were firmly convinced of the efficacy of carbolic acid, especially in districts in Scotland, and they certainly had some cases which appeared to speak very highly for carbolic acid. If it had been for no other purpose than convincing the lay mind, he thought the Commission ought to have conducted further experiments. The Commission had not believed in carbolic acid at the outset, and they had not appeared to think it worth while to deal with the matter at all. He did not quite agree with Mr. Sampson in his suggestion that the disease under discussion should be called Specific metritis. It was a catarrhal condition, but scarcely metritis; if so, not of a very acute type. It was difficult to decide from a diagnosis whether a case was an ordinary abortion or a contagious abortion. In the cases cited by Mr. Pratt, when abortin was injected, there was a reaction after the cows had aborted. Did the same apply if they were pregnant.

Mr. PRATT: They are supposed to do so.

Mr. WHARAM spoke of the difficulty of diagnosis. He agreed with Mr. Bowes that it was not easy to diagnose a case of contagious abortion when first seen. With regard to scheduling, he did not think the disease was so prevalent as it used to be. He thought the sanitary arrangements made by most breeders had tended to reduce the number of contagious abortions. The more frequent use and knowledge of antiseptics had, in his opinion, much contributed to reduce the extent of the disease. That was all done by individual effort, and the fact of so much having been accomplished in this way would no doubt retard any action taken by the Government. In reference to the manner in which the contagion enters the body of the cow they knew it might be ingested, or might enter *per vaginam*, and no doubt the bull was often responsible for it. He had not the slightest doubt that the disease in most cases —although the Commission did not appear to think so— was propagated by the bull. To remove the cleansing the same day as the cow aborted would be impossible in many cases. There was a very great danger in washing out many of these animals. It was much safer to use pessaries, and in that way a fairly strong antiseptic might be introduced which would do all that was necessary. He thought with good veterinary surgeons practising in the country districts they would entirely get rid of the disease.

Mr. PRATT, in replying to the discussion evoked by his paper, said most of the gentlemen who had spoken appeared to think that the bull was the carrier of the disease in the majority of cases. That was his view, too, and he was glad to see that owners of bulls were getting very particular as to what cows they allowed their bulls to serve. With regard to the relative merits of the alternatives of washing out the uterus and the employment of pessaries, the latter had never seemed to appeal to him so much as irrigation. A pessary might sink away down into the bottom of one horn of the uterus, and they did not appear to him to have that cleansing effect that a pump had. By the irrigation method, if one bucketful was not enough, two or three might be used. He himself had first used Jeyes' fluid but had found that sometimes the cows strained most awfully. He had begun to use Chinosol now, and found it very efficacious. He had never tried to draw it out again, but rather liked to see it left in, as it mixed with the tissues and, in his opinion, exercised a purifying effect on the cow. At any rate it did no harm.

Reference had been made to the use of a curative agent. Abortin was not brought out as a curative agent, but simply as a diagnostic agent. The Committee experimented with dead bacilli as a curative agent. Animals were infected and large quantities of dead cultures were inoculated for about seven months with a view to preventing the disease. In two cases the experiment was succesful, and in one case the cow aborted. As regards abortion not being as prevalent as it used to be, unfortunately it was at any rate very common, and it

was no doubt spread by the fact that a farmer, when a cow of his aborted, often immediately sent it to the market, and if a man bought it in good faith he got an aborting cow.

Mr. BOWMAN said he would like to ask Mr. Pratt what he considered was the best method of disinfecting the bull.

Mr. PRATT replied that he had instructed his clients to dissolve Chinosol tablets in water, take an enema pipe, put the nozzle into the sheath of the bull and pump in until the sheath was full. Of course, added Mr. Pratt, with a smile, you have to look out for "number one," but it was not often that the bull was refractory. They got used to it.

On the proposition of Mr. Bowes, seconded by Mr. Clarkson, a hearty vote of thanks was given to Mr. Pratt for his instructive paper which had led to such an interesting discusssion.

Mr. MCKINNA suggested that before the meeting closed a vote of thanks should be given to their late President, Mr. J. W. Lazenby, who had filled the chair with dignity and great success, and under whose genial chairmanship they had all enjoyed sitting. It was with regret they saw his term of office come to a close.

This was seconded by Mr. Bowes, and carried unanimously.

Mr. BOWES proposed, and Mr. Wharam seconded, "That the President be empowered to nominate Mr. Clarkson as the Yorkshire Veterinary Society's candidate for a seat on the Council R.C.V.S. as soon as nominations are invited." This was carried.

Mr. NOEL PILLERS suggested that the item in the agenda "interesting cases" be in future taken before the paper and discussion, as otherwise it meant, as they had so often experienced, that this item of the agenda was not reached until the end of the meeting when members were anxious to leave, so that the consideration of such cases was cut short in a very hasty manner. In the case of other societies he quoted, "Interesting cases," was taken before the paper.

Mr. SAMPSON supported Mr. Piller's suggestion, but no action was decided upon.

Mr. PRATT showed specimens under the microscope illustrative of his paper, and these were inspected by several of the members.

Afterwards those present adjourned to an adjoining room of the hotel where they were entertained to tea at the invitation of the Leeds members of the Society.

Actinomycosis in Norway.

Professor Harbitz and Dr. Backer Gröndahl have recently published (*Norsk Magazin for Laegevidenskaben*, June) an account of the incidence of actinomycosis in Norway, where this disease has lately been carefully studied. The first case published in Norway dates from 1887, and for many years afterwards the disease attracted scant attention. More recently a number of cases have been reported from different parts of the country, and at the Pathological Institute in Christiania 87 cases have now been studied, with special reference to the source and course of the infection, as well as to the varieties of fungi found in different lesions. The seat of infection was the cervico-facial region in 39 cases, the lungs in 20, the abdomen in 26, and the skin in 2. The disease was twice as frequent in men as in women. Its incidence was not greater than usual in the months August to January. Many of the patients were town-dwellers, and most were recruited from the eastern and southern provinces, the west coast, including Bergen, being extraordinarily free from the disease. In the cervico-facial region the disease is chronic but benign and tends to spontaneous recovery. All the 39 patients so affected recovered. The primary focus in this class could seldom be found, but it was twice localised in the tongue, once in the submaxillary gland, and occasionally there was a history of aching gums early in the disease. In the lungs the disease was invariably fatal. The primary focus was in the pulmonary tissue; infection from the œsophagus to the lungs, as described by some writers, was never observed. Usually the first sign of the infection was a broncho-pneumonia. In the abdominal form 20 per cent. recovered. The primary focus existed in the appendix in nine patients, and this was also probably the case in five others. Of these cases the appendix was usually scarred, or it presented a perforation leading directly to an abscess. The spread of infection may be intra or extra-peritoneal. In the former case it often involves and perforates the bladder, when the fungi may be found early in the urine. In the latter case it may track up behind the diaphragm, and an empyema may be the first sign of an abdominal infection. Of the two cases of primary skin infection one occurred in a man who worked in a corn-field without stockings. He died in spite of radical treatment, including amputation at the thigh. Passage of the fungi by the blood stream was occasionally observed in the later stages of the disease, when distant organs such as the brain and the lungs became involved, but spread of infection by the lymphatic system was never seen, and the authors emphasise the diagnostic value of this point. In 16 cases of actinomycosis hominis they succeeded in isolating one and the same facultative anærobic fungus differing from that which most German writers have described as pathogenic (Boström's type). It also differed from every ærobic type cultivated from various plants. An identical growth was once cultivated from bovine actinomycosis, seven cases of which were examined. Professor Harbitz and Dr. Gröndahl consider it probable, but not proved, that human and bovine actinomycosis are caused by the same or by closely allied fungi. Numerous attempts were made to isolate from corn, straw, hay, and the air the same anærobic fungus; none but the familiar ærobic fungi could, however, be found, and these were not pathogenic to rabbits or guinea-pigs, nor could any progressive actinomycotic inflammation be induced. The writers locate the site of infection either in the lining of the respiratory tract or in the digestive tract which has been infected by swallowad matter. Less is known of the source of infection. Infection from cattle to man, or from man to man is not proved and is highly improbable. Probably the pathogenic fungi are derived from various plants; but how and where they live in nature is unknown. J. H. Wright has suggested that the fungus pathogenic to man and cattle does not exist elsewhere, and that it is often present in the mouth of man, becoming pathogenic with trauma. This theory is worthy of consideration, but it requires further support. The diagnosis of actinomycosis by complement fixation or agglutination was found by the writers to be impossible, and owing to the capriciousness of the disease and the variability of its course, it is difficult to estimate the value of the various remedies in use, including potassium iodide. Twice the writers used a vaccine made from sterilised cultures of the fungus; the treatment was quite negative in one case, and in the other case, which presented advanced abdominal disease, there was considerable improvement. The perusal of this interesting paper leaves the reader with the unsatisfactory impression that there are vast and numerous lacunæ in his knowledge of a disease which has commonly been treated by text-books as a cut-and-dried subject.—*The Lancet.*

DISEASES OF ANIMALS ACTS 1894 TO 1910, SUMMARY OF RETURNS.

Period	Anthrax. Outbreaks Confirm'd	Anthrax. Outbreaks Reported	Anthrax. Animals Confirm'd	Anthrax. Animals Reported	Foot-and-Mouth Disease. Outbreaks	Foot-and-Mouth Disease. Animals.	Glanders (including Farcy) Outbreaks	Glanders (including Farcy) Animals.	Counties Affected Animals Attacked	Sheep Scab. Outbreaks	Swine Fever. Outbreaks.	Swine Fever. Slaughtered. *
GT. BRITAIN. Week ended Nov. 4	20		21				3	9		7	33	578
Corresponding week in 1910		29		38			2	10	Hants 2	6	41	456
Corresponding week in 1909		28		33			9	23		6	19	162
Corresponding week in 1908		21		21			9	38	London 2	3	42	338
Total for 44 weeks, 1911	743		913		18	467	180	428	Middlesex 4	323	2114	25393
Corresponding period in 1910		1235		1470	2	15	319	933	Surrey 1	367	1255	11643
Corresponding period in 1909		1100		1440			462	1611		498	1432	12861
Corresponding period in 1908		920		1210	3	112	693	2151		663	1762	10883

Board of Agriculture and Fisheries, Nov. 7, 1911.

	Anthrax. Outbreaks	Anthrax. Animals	Foot-and-Mouth Disease. Outbreaks	Foot-and-Mouth Disease. Animals.	Glanders (including Farcy) Outbreaks	Glanders (including Farcy) Animals.	Parasitic Mange (outbreaks) Animals Attacked	Sheep Scab. Outbreaks	Swine Fever. Outbreaks.	Swine Fever. Slaughtered. *
IRELAND. Week ended Nov. 4	...	...	...	...	...	...	...	2	2	78
Corresponding Week in 1910 ...	...	...	...	...	...	...	...	5	4	91
Corresponding Week in 1909 ...	...	...	...	...	...	...	1	7	...	...
Corresponding Week in 1908 ...	...	...	...	...	...	...	...	7	1	42
Total for 44 weeks, 1911 ...	7	14	...	...	2	3	53	283	115	2001
Corresponding period in 1910 ...	7	10	...	...	1	2	62	387	82	1869
Corresponding period in 1909 ...	8	8	...	...	...	...	70	330	86	1561
Corresponding period in 1908 ...	7	10	...	...	...	...	34	300	152	3534

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 6, 1911

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Veterinary Training and the Public Health Service.

The vast extension of the domain of pathology in recent years has brought into clear relief the intimate relationship between human and veterinary medicine. Particularly has the new science—bacteriology—contributed to this, not only by making plain the practical identity of many disease processes in the animal and the human being, and rendering possible the study of the one through the other, but also by demonstrating hitherto unsuspected channels of infection. As a consequence of this new science, exacting as it does considerable technical training and the command of adequate laboratory facilities, a specially trained set of medical practitioners has arisen adequately equipped to examine the problems of public health and preventive medicine. When investigating defects in human habitation, clothing, food, and occupation, they are necessarily driven to a consideration of matters affecting the domestic animals that come into relation therewith in various ways. The problem of tuberculous cattle, for instance, is closely interwoven with that of human tuberculosis. The need is continually becoming more obvious, therefore, for a class of veterinary sanitarians, highly trained in scientific research methods, to approach from the animal side the solution of those common problems that are already being vigorously attacked from the human side by the medical officers of health. This need recently received forcible expression at the hands of the President of the Faculty of Physicians and Surgeons of Glasgow, Dr. David N. Knox, in his address at the opening of the Glasgow Veterinary College. After pointing out that no gulf existed between human and veterinary medicine, for both were based on the same scientific principles and threw light each upon the other, he urged upon the governors of the College, the veterinary profession, and the students the importance of the study of bacteriology. Referring to a feeling that seemed to be growing in the veterinary profession that veterinarians should be appointed meat and milk inspectors, he said that scientific laboratories were an absolute necessity for efficient inspection, and he proposed that there should be evolved a class of veterinary surgeons especially skilled and capable of working in such laboratories. For some time to come he feared that such officials would for the most part have to be sought among medical officers of health, until the veterinary profession awoke to the necessity of providing the scientific training required. Failing the establishment of a veterinary diploma in public health by the Royal College of Veterinary Surgeons, he offered as an alternative suggestion the establishment by the Glasgow Veterinary College of post-graduate courses in public health, which would involve the establishment of a public health laboratory, where special instruction in chemistry and bacteriology might be given with a practical examination at the end of the course. It seems certain that an increasing scientific equipment of veterinary sanitarians would secure valuable co-operation between the medical and veterinary professions in the field of public health.—*The Lancet.*

Veterinary Surgeons and Meat Inspection.

We have received the following interesting communication from Principal McCall, of the Glasgow Veterinary College :—

I am pleased to inform you that the provisions for the instruction of veterinary students in bacteriology and meat inspection which were foreshadowed by Dr. Knox in his introductory address to the students of this College are now in operation, and have been in operation, since the year 1895.

In that year the Council of the Royal College of Veterinary Surgeons (of which body I am a member, and have been for upwards of 30 years) advanced the period of study from a course of three years to one of four years, and added to the subjects of study bacteriology and meat inspection.

In this College all students studying for third professional examination are required to attend (1) "A course of not less than 80 lectures on the morbid anatomy and pathology (including bacteriology) of the domesticated animals." (2) "*A practical course* extending to not less than 40 hours' instruction on the morbid anatomy, pathology (including practical bacteriology) of the domesticated animals."

On the termination of his third session's study the student is examined on the above subjects by the examiners of the Royal College of Veterinary Surgeons (no Professor or Lecturer in any of the Colleges is allowed to act as an examiner).

Those students who pass this examination receive in their fourth year instruction on practical meat inspection at the Moore Street abattoir during the session, and on its termination they are again subjected to a practical test conducted by another set of examiners, also appointed by the R.C.V.S., and, if successful, receive the diploma of the Royal College of Veterinary Surgeons.

The students of the London, Edinburgh, Liverpool, and Dublin Colleges receive similar instruction, and are examined by the same examiners, so that more cannot be done than is being done to make veterinary surgeons competent meat inspectors, and I have no hesitation in saying that the members of the Royal College of Veterinary Surgeons who have received their diploma since the year 1895 are competent to act as meat inspectors, and have received a more extended course of theoretical and practical instruction in meat inspection, than the members of the medical or any other profession.

Dr. Knox was so far correct in stating that "he did not take the view that a veterinary surgeon *per se* was of necessity the best qualified meat inspector"; but a veterinary surgeon with the training he now receives, and has received since 1895, in pathology, bacteriology, practical meat inspection, not to speak of anatomy, physiology, chemistry, botany, veterinary medicine and surgery, etc., etc., must of necessity now be the best qualified inspector of flesh foods.

I also observe that "The Raider," under "Evergreen," remarks "that there is just one outstanding defect in the Veterinary Colleges. There are not sufficient students on the benches to make them flourish." But I cannot admit that it is the fault or defect in the Colleges that the number of students attending all the Colleges are reduced by one-half, or that the Colleges are not flourishing—*i.e.*, doing good work.

In 1895 the Council of the Royal College of Veterinary Surgeons advanced the matriculation or general educational examination to the standard required for admission to the Medical Colleges. This knocked off at one blow one-half of the students formerly admitted. Then the period of study was raised from three to four years, with an advance of fees amounting to £20 on the fourth session, and we were recovering from these blows; but now we are in the throes of the motor craze, and back to where we were in 1895 in respect of entrants. No one, however, can say that the Colleges are to blame for the paucity of students, and if by "not flourishing" it is meant that the Veterinary Colleges are not paying their way in fees obtained from the students, that will apply to all the Universities and Medical Colleges in the country, as also the Technical Colleges and the Agricultural Colleges; and if we apply to the students of the two last-mentioned institutions the same educational tests before admission as are applied to the students of the Veterinary Colleges, I hesitate not to say that two-thirds of the entrants to these institutions will be unable to gain admission.

I enclose herewith a copy of the prospectus of this College, and by a reference to its pages you will obtain ample corroboration of the statements I have made as to the facilities afforded students in acquiring a knowledge of the subjects of bacteriology and meat inspection.—*Scottish Farmer.*

Death from Glanders—Inquest.

At the Congregational Institute, Bexley Heath, on Wednesday, Aug. 23, Mr. H. B. Sewell, the Coroner for the district, conducted an inquest concerning the death of Herbert John McGill, 26 years of age, the son of George McGill, contractor, of 36 North Street, Bexley Heath.

Mr. H. J. Bracher, solicitor, of Maidstone, was present to represent the Kent County Council.

George McGill, carman and contractor, of 36 North Street, Bexley Heath, stated that the deceased was his son, who lived with him. His age was 26 years last birthday, and he was employed by witness as a carman. The deceased enjoyed very good health, and had nothing the matter with him since he was a baby. The deceased sometimes assisted in horse slaughtering, but did not do much at it. He was engaged on July 31st by Mr. Hoare, Inspector under the Diseases of Animals Act, to assist in slaughtering a horse that had glanders, but in the meantime it died. His duty then consisted of carting the carcase from Mr. Williams' stable at Bexley to the grave, to prepare it for the veterinary surgeon to make a post-mortem examination. The grave was at the back of Oxford Place, close to the stable. The examination was conducted by Mr. Robards. Witness was not present at the examination. The deceased came home about six o'clock on July 21st and said that he had cut his arm. It was bandaged, and deceased would not let anyone touch or look at it. He said that Mr. Robards had dressed it. The deceased explained that the knife with which he was cutting the tongue out slipped and cut his arm. The next day witness saw the arm, and there was a small flesh wound that did not look very bad. Deceased went out on the Tuesday, and on Wednesday he did no work, and, as his arm pained him, he went to Dr. Leslie. Deceased bathed and poulticed it as ordered, and went to the doctor every day to the following monday, when he "lay up." Death took place on Monday, August 21st, at seven o'clock in the morning. Deceased had assisted at post-mortem examinations since he was 14 years of age. He was a sober lad, and took his own knife on the occasion in question.

Mr. Bracher: Mr. Hoare came to you, to engage you, didn't he?—No, he wanted my other son, but he couldn't go, and I said, "There's my son Herbert," and he said to him, "You will do, you come."

But his conversation was with you?—Partly with me, and partly with my son.

He has paid you for your son's services?—He has paid my wife.

Frank Walter Robards, veterinary surgeon, of Camden House, Dartford, Veterinary Inspector to the Kent County Council for the Dartford district, deposed that he was making a post-mortem examination on a horse supposed to have died from glanders, on July 31st. He understood from Mr. Hoare that young McGill would be there to assist. The horse was just behind the Oxford Mews, Bexley. Deceased was present when witness arrived, but had not done anything beyond carting the carcase to the place where it was to be buried. Deceased took out the viscera, lungs, and the trachea and larynx. Whilst he was taking out the trachea, which was a bit awkward to do, the knife slipped and cut his forearm. The cut was about two inches long, but not deeper than

the skin. Witness immediately disinfected with neat turpinol the wound which in itself was not serious, though it would be serious if it was infected with glanders. He washed the arm with a solution of turpinol, rubbed some in, and then bandaged it up. The examination had been practically completed at that time. Witness heard a week later that the deceased was poorly, and was told that he had been to a doctor, who said he had blood-poisoning. The deceased's brother told him then that he was rather better. The previous Friday hearing that the deceased was seriously ill, he went to the house, and was told that his condition was serious. Glanders was very serious, but witness did not think there was any danger after what he had done in disinfecting the wound so carefully and promptly.

By the Jury: It was not necessary to hold a post-mortem examination on every horse that died from glanders, but he had instructions from the Kent County Council to make one on all horses which were supposed to have died from glanders. The deceased clearly understood that there was danger, but witness did not consider it necessary to tell him to go to a doctor. He had never had a case of that kind before.

Allen Hoare, Inspector under the Diseases of Animals Act, appointed by the Kent County Council, and living at 7 Methuen Road, deposed that on Saturday, July 29, he had a report of an outbreak of glanders at the Oxford Mews, Bexley. Witness called in the veterinary surgeon, who gave a certificate that it was glanders. On Sunday, July 30th, witness saw Mr. McGill, and asked if his son could slaughter a horse the following day. He meant his son Fred, whom he had been used to having, but Mr. McGill said he could not go, and Herbert would go. On Monday, July 31st, the Divisional Committee at Dartford made an order for slaughter, and the time was fixed, but in the meantime the animal died. Deceased took the carcase to the railway allotments at the back of the mews, where the pit was ready to receive it. After the arrival of the veterinary surgeon, the deceased opened the horse, and, in taking out the windpipe the knife slipped. Mr. Robards dressed the wound very quickly. The deceased did not seem very frightened about it. The horse had been suffering from glanders. The deceased helped to roll the body into the pit. Witness heard the next day that deceased felt queer, but did not think it was serious after what Mr. Robards did in dressing his arm. He understood that the deceased told the doctor the wound had been disinfected for glanders. Witness reported the outbreak of glanders to the Medical Officer of Health (Dr. Sunderland), but did not mention that the deceased had cut himself.

Dr. J. Leith Leslie, of the Broadway, Bexley Heath, said the deceased came to him on the morning of August 3rd. He complained of a cut on his left forearm, which was about 1½ inches long, gaping, but not deep. It looked very unhealthy, and the lad explained how the wound occurred, and that Mr. Robards had cleaned it up and bandaged it, so that he did not think it was necessary to go to a doctor. At that time the deceased did not say that the horse he had been cutting was suffering from glanders. On August 8th the deceased showed symptoms of general blood poisoning, and later developed symptoms typical of acute glanders. He died on the 21st from exhaustion from acute glanders. Nothing more could have been done for the deceased so far as witness was aware. The treatment for glanders, which should be carried out at once, was to excise the wounded part and apply very strong disinfectant. It must be done immediately. He did not know the disinfectant Mr. Robards used. When witness saw deceased nothing more could have been done for him beyond what was done. About 90% of the human cases of glanders ended fatally. Witness had never seen a case before.

In reply to a juryman, Mr. Robards said that the disinfectant he used was generally employed in a 2½% solution, but he applied it in this instance in 8%. The deceased complained that it burnt him, showing that it had taken action, and was strong. He did not think that it could be said that the disinfectant was not effective. Some microbe must have got to the blood very rapidly.

The Coroner, in summing up, said the cause of death was perfectly clear, the deceased becoming infected with glanders while helping to perform a post-mortem examination on a horse that had died from that disease. They had heard that disinfectants were applied immediately, but apparently the blood steam became infected very quickly, and before the disinfectant had time to work. He then proceeded to give his experience in a couple of cases of tetanus, and observed that it was quite easy for the blood to become infected. He thought the proper verdict would be "Death from misadventure."

A Juryman: Do you think if he had seen a doctor sooner it would have been any benefit to amputate the arm?

The Coroner: It would be a dreadful thing to cut a man's arm off whether infected or not. A doctor could not say for a few days whether it was infected.

In reply to another Juryman, Mr. Robards said that gloves were not worn by deceased or by witness. Some wore them, and some did not for these cases. In this instance it was not the hand but the arm that was cut. He usually looked at the hands of the one helping him to see whether there were any cuts.

The Coroner: I have no doubt that after this the veterinary surgeon will take care to see that the man helping him is protected.

Mr. Robards: Certainly, I will see that the man is provided with gloves.

The jury returned a verdict of "Death from misadventure," and passed a vote of condolence with Mr. McGill in the loss of his son.—*The Express* (Kent).

PARLIAMENTARY.

Scottish Land Bill: New Agricultural Department.

In the House of Commons, on Monday, Nov. 6.

On the report stage of the Small Landholders (Scotland) Bill.

Mr. C. Bathurst (U.) moved that the Bill be recommitted to a Committee of the whole House in respect to Clause 4. When the Bill was committed to the Standing Committee on Scottish Bills, it contained a reference to Commissions who were to have certain powers. As it came back, a separate Board of Agriculture for Scotland was mentioned for the first time. Since it had become known to English agriculturists that the Board of Agriculture was no longer to have the entire administration of the Diseases of Animals Act throughout Great Britain, every meeting of agricultural associations in England which had been held had passed a unanimous vote asking Parliament to refuse to allow this clause to pass into law. During the past month, also, the Scottish Chamber of Agriculture had passed a resolution of protest by a majority of two to one.

Sir T. C. Warner (R.) seconded. Even if Scotland had the management of her own affairs, he thought it would be wise on her part to have a central body for the whole of Great Britain to make regulations with regard to diseases of animals. (Hear, hear).

Mr. Courthope (Sussex, Rye, Opp.) thought the right hon. gentleman had rather misunderstood the point of the argument. The whole argument was based on the ground that diseases of animals affected British rather than merely Scottish interests, and that the administra-

tion of this important matter should be under one Department and not two. It was a matter of common knowledge that the advantages which Great Britain enjoyed of being able to send pedigree stock to foreign countries rested on the great rigidity and strictness of administration as regards disease. It was also known that countries like the United States and the Argentine knew no boundaries whatever except the sea. If there was any laxity of administration on this question in Scotland—and the opinion prevailing among a large section of Scottish agriculturists he thought warranted such a fear—the whole of great Britain would at once lose the advantages she possessed in that direction. If there was a division of administration between the two countries the risk would be great before the new Scottish Department got into harness, and the English Board would have to treat Scotland exactly as it treated foreign countries in relation to the movement of animals. There would have to be the same kind of restriction, and, while that would be a very undesirable thing for England, it would be disastrous to Scottish agriculture.

Mr. URE said the Government would support the Bill. Its main purpose was to set up a Scottish Board of Agriculture, and he could not see what harm would thereby be done to the English farmer. If he were asked to state which was the most important of the powers of the new Board, he would say the administration of the Contagious Diseases of Animals Act.

Mr. LONG declined to look at the matter as a purely Scottish question. The Government, in setting up a Scottish Board of Agriculture, were going to confer on the Scottish Secretary the unchallenged right to take from the present Board of Agriculture for England and Wales whatever powers he thought fit to demand. The Secretary for Scotland was to have the absolute right to make such regulations as he chose for the control of the new Board. They had no right to make this unheard of change in a bill, which did not settle the matter by definite and statutory provisions, but which gave powers to one Minister at the expense of another. (Opposition cheers). During the last forty years enormous progress had been made in the work of stamping-out disease in Great Britain, and it was of the greatest importance to have one man at the head of affairs, who could form an opinion, and then promptly act upon it. (Hear, hear). This proposed change would be a fatal mistake. It would expose to great risks cattle to the value of many millions of pounds, and would arouse in the minds of agriculturists the gravest possible anxiety. (Opposition cheers).

Mr. BECK (R.) said he discovered to his sorrow and surprise that this so-called purely Scottish Bill put English agriculture in grave peril. (Hear, hear). Those who sat for rural constituencies were bound to fight this proposal tooth and nail. (Cheers).

Mr. CHAPLIN (U.) said that one danger to this country by this proposal was that the Continent was reeking with foot-and-mouth disease, and it became more and more difficult to protect this country. Absolute unanimity of treatment guided by one mind was essential for success.

Sir W. MENZIES (R.) said that surely it was not beyond the ingenuity of those who objected to this clause to frame an amendment so that, as regarded the contagious diseases of animals, there should be uniformity.

Mr. HICKS BEACH (Gloucester, Tewkesbury, Opp.) suggested that those Scottish members who had spoken against the motion were adopting tactics which were unlikely to secure the passing of the Bill. They must recognise that a strong feeling existed in England against a separate Board of Agriculture being established in Scotland, and that in Scotland also there was a strong feeling against having a separate body to administer the Diseases of Animals Acts. The administration of those Acts should be under the control of one authority for the whole of Great Britain; whether that authority had its headquarters in Scotland or in England he did not care. However many Boards of Agriculture might be set up in Great Britain, Ireland and foreign countries which imported cattle would continue to treat Great Britain as one country, and a separate administration would be of no advantage to Scottish agriculturists. He regretted that the recently appointed President of the Board of Agriculture was not in his place during this debate. (Hear, hear.)

On a division, the motion to recommit the Bill was defeated by 197 votes to 113—majority 84.

Mr. H. HOPE (U.) moved an amendment to substitute a Scottish Department of the Board of Agriculture and Fisheries for the "Board of Agriculture for Scotland" which it was proposed to establish.

Mr. URE said the Government could not accept the amendment. Scottish members were fully alive to the efficiency of the Board of Agriculture and Fisheries, but they believed they had in Scotland material for establishing an equally efficient board for the control of Scottish agriculture.

Mr. LONG said the only security the British farmer now had against disease was the vigilance of the Board of Agriculture, and now, for sentimental reasons, the powers of that Board were going to be impaired. The Bill would strike a blow at agricultural prosperity, of which its authors would live to be ashamed. (Cheers.)

On a division the amendment was rejected by 130 to 74.—*Daily Telegraph.*

Acorns as Food for Stock.

Mr. John Hughes, an agricultural analyst of much experience, is strongly in favour of their use. Some years ago he made a study of the question, and the results of his investigations are embodied in a pamphlet.

Acorns in moderation are, he says, a wholesome and suitable food, and because animals have died from a too greedy consumption of a certain food itself is to blame. He quotes Sir George Jenkinson, of Eastwood Park, Gloucestershire, whose long experience enabled him to say that ripe acorns are good for cattle, the danger being when young stock on short keep get access to the unripe fruit.

From the results of analyses made by Mr. Hughes, it is seen that of every 100lb. of acorns 86.29 consists of a very nutritious, easily digested food, and only 13.80lb. of indigestible husk.

The reason why acorns have not so far been used as food in the form of meal is probably because farmers usually have no convenient means of drying and subsequently grinding them into meal. Stored in thin layers on shelves in a large, dry, well ærated room, they would dry naturally. But for commercial purposes the drying would have to be by artificial means, in the same way that hops are treated. He found that by drying the crushed kernels at a temperature of 212deg. F., not only was the material concentrated by the expulsion of the water, but the process increased the sugar compounds and eliminated the astringent principle due to the tannin, improving the flavour in a marked degree by imparting a sweet, aromatic, biscuit-like taste.

In a table he shows that acorn meal contains more oil than barley meal, but less than oatmeal. In albuminoids it is inferior to both, but as regards digestibility it contains only 3.77 indigestible fibre, as compared with 5.14 in barley meal, and 11.01 in oatmeal. He calculates that it would require two tons of acorns to make one ton of the meal, and being a partially cooked food the meal will keep for a considerable time without undergoing deterioration. Mr. Hughes points out that acorns lying

about in the fields remain a source of danger to cattle and horses, and hundreds of tons of good, nourishing, and palatable food are annually wasted.

Mr. Carrington Smith writes from Admaston, Rugeley :—During more than half-a-century's occupation of a farm, upon the grazing land of which there have been growing many acorn-bearing oaks, I have not had a single instance of loss, although both cattle and sheep had free access to heavy falls of acorns for weeks together. In 1858 I bought about 100 bushels of acorns gathered by women and children, by leave of the landowner, in copses and in fields occupied by tenants. These acorns, for which I paid about a shilling a bushel, were poured down in a heap on the wooden floor of an old barn, and were both a valuable and safe food for all live stock during the following winter. Slight fermentation and sprouting mellowed the heap. In 1868 the acorn harvest was of splendidly large fruit, perfectly ripened and free from their cups and twigs. During a later period of this so-called autumn acorns have been lashed off by wind with cups and twigs attached to them. My complete immunity from any loss from 1856 onward may fairly be attributed to the fact that whenever outside grazing falls off I feed freely both home-grown fodder and bought food.

Seventy cattle belonging to Mr. J. Bishop, of Haughton, Shifnal, have died from eating acorns. The cattle were grazing in a field in Aqualate Park, Newport, Salop, belonging to Sir William Boughey, where the acorns were exceedingly plentiful. The loss to Mr. Bishop is estimated roughly at nearly one thousand pounds.—*Farm and Home.*

The Traffic in Old Horses.

Sir Cecil Hertslet, British Consul-General in Belgium, reporting on the trade and commerce of that country, in alluding to the traffic in horses between England and Antwerp, says :

"I can emphatically state, upon the best authority, that horses now permitted to be embarked in the United Kingdom are, without exception, in a fit state to undergo the voyage to Antwerp without cruelty.

"The work of the veterinary inspectors appointed at various ports in the United Kingdom is carried on in a thoroughly conscientious manner.

"Short of absolute prohibition of the trade in old horses, it seems impossible to deal more strenuously with the matter in the United Kingdom, and in common fairness it would be unjustifiable, to remove from the British dealer the market for old horses now existing in England."—*Eastern Morning News.*

Macadam and falling Horses.

Mr. John McBeth, writing to *The Scotsman*, says :—

"When driving home this week I observed a very good and capable horse being assisted after falling on the brae opposite Lugton, Dalkeith. The marks on the tar-macadam clearly showed the cause of the downfall. Part of this brae has been made little else than a skating rink for horses. This is anything but a solitary case on our suburban roadways. Others who have narrowly escaped or have suffered when driving can testify to the extremely dangerous stage in which some of our roadways are. There is surely a medium between keeping down the dust and practically driving horses off the road altogether. It was once suggested to make special roads for motor traffic. The idea was scouted, but they are now being made at the expense of the other road traffic. So when a horse falls and damage results from a road made unsafe and a veritable trap, should not the Road Authority pay the damage and restore the roadway to a state of safety at once."

Addresses Wanted.

The following names will be removed from the Register R.C.V.S., 1912, failing information as to the present addresses of the members.

Name.	*Last address known.*
Bayes, James,	late of Agricultural Department, Cape Town, S. Africa.
Bird, Robert H.,	Fort Collins, Colorado.
Brassington, A.,	15 Mornington Rd., New Cross Rd., S.E.
Casewell, W. Thos.,	Newport, Salop.
Cobbledick, J. O.,	Queen's Row, Clifton, Bristol.
Davies, Arthur W.,	Lennox Taylor Co., Iowa, U.S.A.
Deakin, Herbert Walmsley	109 Welbeck Street, Ashton-under-Lyne, Lancs.
Dowell, Frank W.,	128 Jermyn Street, St. James', S.W.
Farrell, Capt. G. H.,	Hyderabad (Deccan), India.
Featherstonhaugh, H. H.,	King's Somborne, Stockbridge, Hants.
Hall, James W.,	40 High Street, Hawick.
Jackson, A. F. S.,	Johannesburg Turf Club, Johannesburg, S. Africa.
Kennedy, W. R.,	216 Selhurst Road, South Norwood, S.E.
MacLaren, John H.,	Sweethope, Shawhill Road, Shawlands, Glasgow.
Muirhead, John T.,	14 Merchiston Gardens, Edinburgh
Scott, William,	Royal Artillery, Victoria Barracks, Sydney, N.S.W.
Simpkin, F. A.,	Grosvenor House, Horncliffe Road, Blackpool.
Smith, Steven Marsh,	late Capt. A.V.C.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, Nov. 3.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

C. R. Chadwick to be Lieut. Dated Oct. 10.

Nov. 7.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut. L. L. Dixson, from the Half-pay List, is restored to the establishment, with precedence next below A. S. Lawrie. Dated Nov. 8.

It is with regret we have to announce the death of Capt. B. H. Lane which occurred on Nov. 5th, at Meerut, India, from concussion of the brain. This officer graduated on July 13th, 1904, commisioned Lieutenant, Army Veterinary Corps, 4th Feb., 1905, promoted Captain, 4th Feb., 1910.

Nov. 8.

Capt. E. P. Argyle has been transferred from Aldershot to Netheravon to take up the duties of Veterinary Officer to the Cavalry School, replacing Capt. J. J. B. Tapley who has been selected for appointment to the Egyptian Army.

The undermentioned officers arrived from India in Transport "Rewa" on 1st November, and have been posted to the Aldershot Command : Major A. England, Capts. P. V. Beatty, H. M. Williams.

INDIA OFFICE, Nov 3.

APPOINTMENTS TO THE STAFF.

The following appointments have been made to the Staff have been made in India :

ARMY HEADQUARTERS STAFF.

QUARTERMASTER-GENERAL'S BRANCH.

To be Assistant Principal Veterinary Officer in India.—Capt. M. St. G. Glasse, Army Veterinary Corps. Dated Oct. 1.

To be Inspecting Veterinary Officers.—Col. F. W. Forsdyke, Army Veterinary Staff, Lieut.-Col. E. Taylor, Brev.-Col. E. R. C. Taylor, Army Veterinary Corps. Dated Oct. 1.

CORRESPONDENCE.

GASTRIC AFFECTIONS OF RUMINANTS.

Sir,

I have read with much interest the various letters with regard to the gastric affections of ruminants. I quite agree with Mr. Nash in his remark that it is wonderful how many persons give such large quantities of salts, treacle, linseed oil, etc. without killing the cattle to which they are administered. Salts are a medicine I have not given to cattle for the last three years, and from my experience during this period I have determined not to return to a remedy so drastic in its effects. Large quantities of salts, when given to cattle, enter the rumen and mix with its contents. The taste of the salts is disagreeable to animals, and consequently they refuse to chew the cud, and the bolus is returned to the rumen without being masticated. I have seen cattle remain in this condition for a long time.

The method I now adopt is to give a seven, eight, or nine dram. ball of aloes (encapsulated), which at once passes into the omasum. My experience is that the chewing of the cud is not interfered with, and this, in my opinion, is of great importance. When cattle are given aloes they do not scour violently, nor do the animals sicken. I have frequently seen cattle after receiving a capsuled ball begin to chew the cud immediately afterwards, and continue to do so as if nothing unusual had happened. That is a most satisfactory condition in which to find one's patient. Another reason why I continue to give those capsuled balls is that the bowels respond much quicker, and the action is neither so violent nor so drastic as that of salts.

When giving balls to cattle I used invariably to injure my hand on the sharp edges of the molar teeth. In fact I found it almost impossible to avoid injury even should I use the balling iron or mouth gag, as cattle have much more lateral movement of the jaw than the horse. I therefore had to find some method to protect my hand, and after many experiments I devised a balling gun which effectively prevents injury either to the operator or to the patient. To those desiring information regarding the instrument I shall be very pleased to forward particulars.

There is frequently a distention of the rumen with gas. When the rumen becomes extensively distended I am of opinion that the stomach becomes paralysed. Previously in cases of this nature I frequently used the trochar and canula, but latterly I have used the probang only. I withdraw the stelate, and thus allow the gas to escape, and this, in my opinion, is greatly superior to the use of either trochar or canula. After the gas has been allowed to escape I usually give an eight or nine dram. ball of aloes followed by amm. carb. in 1 oz. doses.—Yours etc.,

JOHN M. STEWART, M.R.C.V.S.

COST OF MOTORING FOR A V.S.

Sir,

It was with a feeling of trepidation and fear that I penned the few lines on the above in your issue of the 28th ult., wondering if the columns of your estimable journal (although I felt the matter would interest many of your readers) would be open to such a subject. Hence I felt I must be brief. I gladly accede to the request of Mr. Begg, and give below some further particulars. The 8 h.p. Renault was new when purchased, the price of £205 being for the car with two-seated body. The fittings, all of which I consider absolutely necessary for any comfort, cost £35 (not £38 as appeared in the issue of the 26th ult.), and thrown in with this amount I had the services of a man for six days to learn me to drive the car. The details are as follows:—

Hood with side curtains	... ...	£8	0 0
Glass screen and fittings	... ...	5	0 0
Two side lamps	... ...	2	0 0
Tail lamp ..	... ...	1	0 0
Head light ...	... ...	4	0 0
Stepney wheel with tyre, waterproof cover		7	7 6
Horn	... ...	1	5 0
Side doors	... ...	3	3 0
Lifting jack	... ...		15 0
Registration fee	... ...	1	0 0
Number plates	... ...		7 6
Head light bracket	... ...	1	5 0
Total		£35	3 0

I drive the car myself, and purposely omitted the cost of the man's wages because the idea in giving the short summary was to contrast the cost with that of keeping horses, and most veterinary surgeons keep a groom of some kind or other. The man's wages are 19/- with cottage which I could easily let at 5/- per week, total 24/-, and although much of his time is occupied in gardening, I have thought perhaps in arriving at the cost of keeping a car it is best to debit the whole of his wages to that object.

The depreciation and tyres are the two most important items to consider in estimating the cost of keeping a car, and obviously I cannot yet speak authoritatively as to the former. But I think if we say the car will last five years before it is either obsolete or done, that will not be far out, although I have known one car of this make which ran for 60,000 miles. The depreciation will therefore figure at £48 per annum. Each year after the first a certain sum will be incurred for painting, renewals of bearing, and general repairs. For this £10 will probably be a conservative estimate, notwithstanding the fact that this make of car is one which wears well. We may condense the items in the following manner:

Running expenses	per annum	£50	19 9
Wages ...	...	62	8 0
Depreciation	...	48	0 0
Repairs ...	...	10	0 0
		£171	7 9

Per mile on an estimated mileage of 6,5750:

Running expenses ...	1·81d.
Wages nearly ...	2·22
Depreciation ...	1 70
Painting and repairs ...	·35
	6·08

I think this district with its proximity to the flint bearing strata of the Southdowns, which flints are used for repairing the roads, is rather hard on the tyres.—Yours faithfully,

HENRY TAYLOR.

Hayward's Heath.

Sir,

I bought a 6 h.p. Rover car, new, and ran it for two years. I kept a special file for the bills. I sold it for £40 at the finish. Including depreciation in value it cost me £3 per week all the time I had it. I am now using a 7 to 9 h.p. Swift, which does quite 10 miles more to a gallon of petrol, and as yet requires very little repairs.—Yours faithfully,

J. H. PARKER, M.R.C.V.S.

Faringdon.

Sir,

I am now in my fourth year of motoring and find the cost works out about as follows: Maintenance, that is petrol, oil, grease, tyres, and repairs of all kinds £100 a year, depreciation £50 a year, man £50. I have covered from 10,000 to 12,000 each year, and used first a six horse power Rover, and latterly a 8 h.p. Rover, both of which I bought new.—I am, your truly,

E. D. JOHNSON.

Nottingham.